

#607

100 Sheets

3 in x 5 in

76 mm x 127 mm

No. 14011

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70972 14011

Roaring Spring • Top Scholar—Roaring Spring, Pa. 16673

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825 Rua Recife
(Adrianópolis)
em frente ao restaurante
Panorama.

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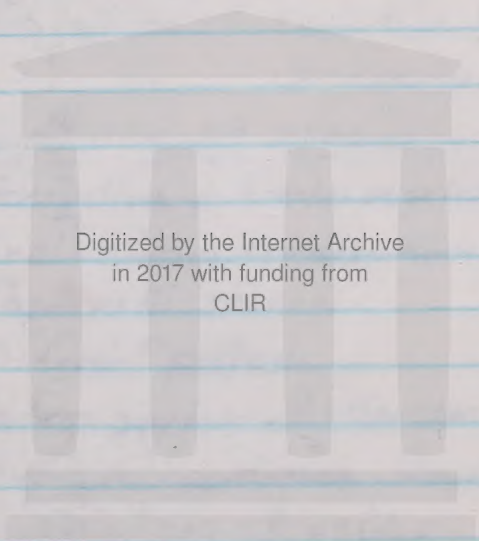
U.607

Aldalea Sprada
Tavares

Beg. Caesalp.

Agronomica. L.

IÊDA LEÃO DO AMARAL
HERBÁRIO



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Jose maria de Albuquerque

Nature of taxonomy

Plant-animal comparison

Relation of evolution to
taxonomy.

Nature of species

Evolutionary trends-vegetative

Evolutionary trends-floral

The fossil record.

Historical systems

Modern systems-Comparison

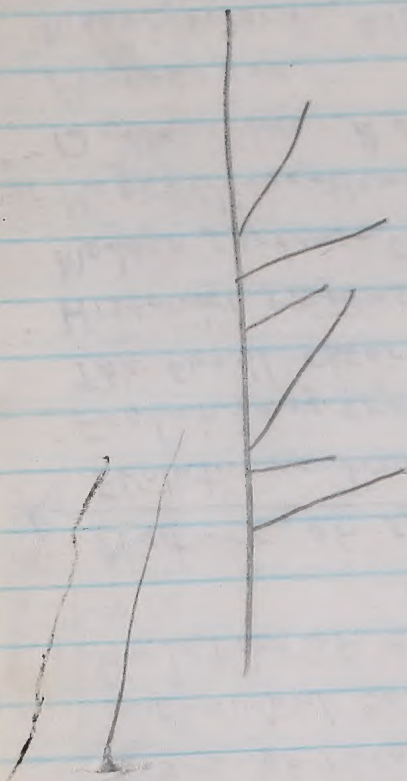
Magnoliidae-Hamam-Caryoph.

Dilleniidae-Rosidae

Asteridae.

Monocots-origin, Alismatales

Monocots-other.



1. The nature of taxonomy
2. Relationship - tax - evol.
3. Pl. an.
4. Species
5. Evol. tr., how det?
- 6 & 7. Evol. tr. & veg.
- 8-10 - Evol. tr. - Pl. tr.
11. Fossil
- 12-13 Hist synt.
- 14-15. Comparison modern
16. Magnol.
17. Herbar.
18. Carya
- 19 - Dillen
- 20-21 - Ros. &
- 22-23 Asplenids

24. origin 7 musc

25. Alismet - Dec 1.

26. Comm L.

27. 2, ng, b

28. L. 1/11 Dec

Ilse Walker
Division of Bioecology
INPA

C.P. 478

69.000 Manaus

(Post-Replication
repair in Meiosis)

Carminda da Cruz
Landim
Departamento de Biologia
Instituto de Biociências
Rio Claro - SP.

Imprimir 2.000
Analisar o texto e corrigir

Literature reference
on fertilization in
Gnetum

for - Maria Cristina
de Carvalho

also: pollination in
Gnetum

also: *Nymphaea*

also: *Nymphaea*



Meyen on Synonymy.
To

onibus: Vila Buriti



p 47. Austrobaileya
See Dawson & Eames
A 387 0: 906-911. 1983.

2 from ...

p. 169, *incerta sedis*

p 213. Juglandaceae.
Fossil fruit in Upper
Paleocene of England.
Family is Lauraceae, prob-
ably N. American in origin.

p 250. Achatocarpaceae

C-glycosyl flavones

p. 253. "of New World origin"
... *cupulifera*

p. 270 - Molluginaceae

C-glycosyl flavonoids,
... *Artemisia*

p 356 - Bombacaceae
pollinated sometimes by
non-flying insects

p 358. Add synonym

Chiranthodendraceae for
Bombacaceae

p 408. Turacaceae

with leaves as in

p 409 - Turacaceae

Cyclopteroid Crataegoid

449. Moringaceae - 1146

or ER-dependent vesicles

450. Rosaceae

with ER-dependent vesicles

455. Gynostemonaceae

ER-dependent vesicles

p 501. Ebenaceae

Flower from Upper Tertiary
in Australia

P 511 - line 3 "usually without."

P 547. Cynoniacae

add. Codiaceae

P. 551- Pithosporaceae

vessels with scalariform

perforations in one sp.

also. "parenchyma

mostly paratracheal."

P 541- Grossulariaceae

add. Suss. Abrophyllaceae,

Carpodaceae, Ruscaceae,

Schmid puts Platypermaceae

here, not in Myrtaceae

P. 564 - Brunia

ovules 1-2 (-12) per locule

575 - P. ...

Carpels weakly united in
Exochorda.

595 - Casa ipiniara

Fls seldom united, as
in Gladioli

597 - Fls ...
~~600~~ 600 Myrtaks

Ovary vascular supply
variously atile antroscopical
631 - line 4 of P 2 - 5 m. t
"and ..."

636 - line 4 - "usually short"

637 - line 3 of descr.

Sheet and some ... also
"herb"

647- Epilobium 185 spp

653- Combretaceae.

Sometimes pollinated by
birds or monkeys.

660- i.e., the ovular vascular
supply is axillary.

669- Cornaceae.

Ovule ± hemitropous or
campylotropous in Kaliphora,
with the micropyle below the
point of funicular attachment
and toward the axis

671- Dipsacaceae.

Close to Flacourtia on
pollen, in Dr. Loeblein-Cullen, 1952

p. 683 - *Oloporus*.

Scorodocarpus smells of
garlic, Fide Ben Stone

689 - *Luranthus*

Alsomithophilus or *Alsomithophilus*

N. 692. *Miscodocarpus* - small

"olive" color. in oil, leaf 13

add syn. *Lepidocarpus*

723 - *Cardiophorus*

On the basis of the p. Ben,

Lobocarpus (C. Ben) puts this
into the "Polemonium".

724. *Conioscarpus*

nodes of *Illecebrum*

732 - *Buxaceae*.

R. type since it is a

762. Linaceae - line1,
odd "or connate much o k
their length" - or just
drop the word "short1"

795. Sapindaceae
- often producing
cyanolipids (nearly restricted
here) and/or cyanogenic
glucosides

817. Rutaceae

Eocene seeds from
Eocene of England

826. Oxalidaceae

line19 or stipules small
and poorly vascularized.

923 - Verbenaceae

odd sun/Gynerosaceae

Mesomaceae

934, Hydrocharitaceae

No secondary system

953 - Scrophulariaceae

line 4 - or the stigmas

dactylar

957 - Gentian

Bontia - not Bontia

915 - Rubiaceae - Gentian

often with vestured side

1063 - Pipera

Stems like the Mill. Comm.

100

1031- line 4 up.

never consistently 5 —

1053- line 4 up —

partial or nearly basal

~~1065-~~

1064- Potamogetonaceae

Plants sometimes submerged
and hydrophilous

1074- Petrosaviaaceae

add syn. Miyoshiaceae

Protoliriaceae

1091- Pandanus

- Casually monpecific in

Freycinetia reinckei

12.4.44 - 1944 - 1945

Polka larynx larynx

columellate structure

except in larynx and

larynx, which are not solid.

12.4.44 - 1944 - 1945

larynx, larynx, larynx,

larynx, larynx

larynx, larynx

Triclyptidae

12.4.44 - 1944 - 1945

larynx, larynx

regular in Triclyptidae

also, larynx

larynx, larynx and a few

other genera

Página 1

Marta Talco

UNIVERSIDADE

DE SÃO PAULO

Campus Universitário

Departamento de Ciências
Morfológicas

65 000. Mm

BM

Bruce Nelson

234-5095

11884 - 11 May, 1985.

Washington Co., Utah

Larrea desert, ca 11 km.

S. of St. George, and 5 km. north

of the Arizona state line

Elev. ca. 800+ m.

Round, freely branching
shrubs ca 3-6 dm. tall.

Flowers 16-20, bright
yellow at first, soon

fading creamy

- Cronquist and Elizabeth

C. Haase

Artemisia tridentata (Harvey & A. Gray)

(Harvey & A. Gray)

A. Gray

Artemisia tridentata 10-38.4

11885 C. & H. 11 May, 1985
Washington Co. Utah
Same place as 11884.

Corolla blue-lavender,
with ~~the~~ rather obscure
to required lines

Note - the numbers
marked C. & H. were
collected together
with Elizabeth C.
Meese.

Langloisia setosissima
(T. & G.) Greene

Langloisia

11886 C. & F. May 1951
Washington Co., Utah.

Same place as 11884

Perennial with a deep seated
apparent taproot, but possibly
creeping well below ground,

Selinocarpus nevadensis
(Standley) Fowler & Turner

✓
Selinocarpus (5)

C. H. 11887 - 11 May, 85

Same place as 11884.

Flowers 17-22, pinkish
to white. Heads nodding
when young, erect at
anthesis

Chaenactis macrantha D.C. Eat.

Chaenactis macrantha

(10)

C + H. 11888 - 11 May, 1985

Mohave Co., Arizona.

Rocky calcareous slopes in
the Larrea-Coleogyne Zone, ca 28.

to road km. south of St.

George, Utah

Twp 41 N, R. 12 W, near the
corner of sections 25, 26, 35, 36
Elev. about 1100m.

Plants strict up to 7 dm
tall, unpleasantly
aromatic. Corolla pale
blue-lavender.

Phacelia palmeri Torr.

48.9

Phacelia palmeri (8)

C 211 1/589 11 May, 1905
Mohave Co, Arizona
Same place as 11888.
Flowers yellow

Camissonia parryi (S. Wats.)
Raven

✓

Camissonia parryi (10)

C. & H. 11890 - 11 May, 1985
Mahone Co., Ariz.

Same place as 11888.

Petals 10, bright yellow
inside, dull outside.

Mentzelia integrifolia

(M. E. Jones) Tidestrom

Mentzelia (10)

C. H. 11891. 11 May 1935
Mohave Co., Arizona
Rocky, calcareous slopes in
Pinon-juniper zone,
ca 36 road km s. of
Hatch, Utah. Twp. 40N,
R. 12W, S. 27. Ca 1410 m.
Leaves yellow. Ray mostly
13 (14), sometimes as
few as 12.

✓
Gaillardia parryi Greene

Gaillardia parryi

C & N. 11812, 11111, 1185

Muhlenberg Co., Ariz. Calcareous rocks

slopes in piñon-juniper

Zone, ca 38 ~~km~~ road km

s. of Ft George. Twp 39 N,

12 W, S. 2. Elev. 1500 m.

Flowers yellow.

Lesquerella arizonica

S. Wats.

Lesquerella (4) ✓

C. & H. 11893 12 May, 1985

Mohave Co., Ariz

Calcareous gravelly soil in
Pinyon-juniper woodland
ca 63 road km. south of

St. George, Utah. Twp.

36 N., R 13 W., S. 22.

Elev. ca. 1550 m.

Plants annual. Flowers
mostly dirty white, but
a few pinkish ones.

Phacelia vallis-mortae J. Vase

Phacelia vallis-mortae ✓

(10)

C & H 11899 - 12 May, 1985.

MoHAVE Co., Arizona

Calcareous, rocky-gravelly soil
in juniper woodland ca 6 ft
road km. south of St. George,
Moh. Co. Twp. 38 N., R. 13 W., S. 22.
Elev. ca. 1550 m.

Flowers bluish-white or
pale blue-lavender.

Dicellastrum pulchellum
(Salisb.) A. N. S. P.

Dicellastrum pulchellum (2)

C. + H. 11895 12 May, 1985

Same place as 11 ⁸⁹⁴~~894~~.

Rays 5-8, white.

Layia glandulosa (Hook.) Hook. &
Arn.

Layia glandulosa (5)

C & N 11896 12 May, 1985

Yuma Co., Arizona

Calcareous, gravelly, rocky
soil in juniper scrub
elevation ca. 65 ~~ft.~~

road 1/2 mi. south of Ft.
Yuma, Yuma Co. Twp 38 N.,
R. 15 W. S. 15 E. Elev. ca. 1500 m.
Fls. in cymes. Herbage very
glaucous. Flowers blue or
sometimes lavender.

Penstemon pachyphyllus

A. Gray ex Rydb.

var. *congestus* (N. E. Jones) N. Holmgren

✓

Penstemon pachyphyllus (10)

C. L. H. 11597 Same
place as 11596.

Petals caducous,
ascending, not spreading,
very pale, nearly white,
with some more evident
blue lines at the base.

Linum lewisii Pursh

Linum lewisii ✓ 

C & H. 11898 - Mohave Co. Ariz.
12 May, 1985. Open juniper
sundland on rocky calcareous
substrate, Road Canyon,
ca 68 road km. south of
St. George, Utah.

Tree 38 H, R, 13 W., S. 21
Elev. ca 1400 m. Broadly
rounded shrubs 4-8 dm. tall.
Bark yellow. Rays 4-11,
often irregularly spaced,
about 1 cm. long.

Haplopappus linearifolius DC.
var. *interior* (Coville) M. E. Jones

Haplopappus (7)

C 1411899-12 May, 1985

Moab Co. Arizona

Juniperus - Coleogyne -
Chrysothamnus community

at the mouth of Road
Tanger, on rocky,
calcareous substrate,

ca 69 road km south
of St. George, Utah.

Twp 38 N., R. 13 W., S. 20

Elev. 1300 + m. Shrubs 1-1.5

m tall. Flowers white

Eriodictyon angustifolium Nutt.

Eriodictyon

(10)

C + N. 11900 - 12 May, 1985

McKane Co., Ariz. In very sandy
soil in open ~~pine~~ piñon-
juniper shrub community

ca 17.82 road km.

S. of St. George, Utah. Trop.

38 N., R. 14 W., S. 29.

Elev. ca. 1300 m.

Flowers bright yellow,
23-34.

Hymenopappus filifolius Hook.

var. *tomentosus* (Rydb.) Turner

23-34

6082.1

Hymenopappus (10)

C 611 11901 12 May, 1965
Mohave Co., Ariz.

Blackbrush community
along Cottonwood
Wash, north branch,
ca 12 ft across
southeast of Mesquite,
Bureau Trp. 38 N., R. 15
w. S. 8 E. Sec. ca. 1100 ft.

Single-stemmed, taprooted,
short-lived, apparently
biennial plants. Flowers
white on some plants,
pale lavender on others.

Cirsium neomexicanum A. Gray,
sem. lat. 60

Cirsium 5, incl 1 absc.
1, 1 absc. 2

June 1902. 13 May, 1985
Mohave Co., Ariz.

Rocky, calcareous open
slopes with sagebrush and
scattered juniper and
Cercocarpus. Twp. 38 N.,

Range 11 W. S. 7. Elev.
just under 1600 m. Plants

mostly single-stemmed,
short-lived, appearing
biennial, but no new
rosettes seen. Heads

yellow. Rays 15-21, 3-5
mm long, at first spreading, then

Co. 52 road 1/2 mi. south
of Ft. George, Utah

Hymenoxys cooperi (A. Gray) Cockerell

var. cooperi

Hymenoxys cooperi (9)

reflexed.

6193.75

Cronquist 11903

13 May, 1985. Mohave Co.,
Ariz. Same place as
11902. Plants perennial,
fibrous-rooted, mostly
single-stemmed. Flowers
blue except for the
white or nearly white
upper petals.

Delphinium parishii A. Gray

Delphinium (5)

11904 - 13 May, 1985

Mo-have Co, Arizona

Same place as 11902. Plants
stocky, glutinous. Petals
with a long claw and
short, purplish-brown,
incurved, trilobed blade
barely surpassing the
strongly 10-ribbed
calyx.

Silene antirrhina L.

Campopsholl. (7)

11905 - 13 May, 1985

Wilcox Co., Arizona

Rocky, volcanic soil in
pinon-juniper wood-
land near the ranger
station and campground
at the southwest base
of Mt. Tumbull.

Twp. 35 N., R. 8 W., S. 33

Elev. ca 2000m. Plants

biennial, single-stemmed
or seldom with 2 or 3 stems.
Herbage spreading-hairy
at the base, stemwise gla-
brous and glaucous. Flow-
ers lavender.

Arabis gracilipes Greene

Arabis

(10)

11906. 14 May, 1985

Malheur Co., Oregon

North-facing volcanic
cliffs in Torowap Valley,
just to the southwest
of Vulcan's throne, ca
110 road miles south of
Fredonia. Twp 33 N.,
R. 7 W., S. 31. Elev.

ca 1250 m. Intricately
branched, rounded shrub 2-3
m. tall, minutely shrubby,
some of last year's flowering
branches still persistent

Cryptantha racemosa (S. Wats.)
Greene

Cryptantha

11907-14 May, 1985

McHale Co., Arizona.

Among volcanic rocks just
to the southwest of
Vulcano Thron, ca 110 road

km. south of Fredonia
T 32 N R 7 W S 31
Elev. ca 1250m. Freely

branching, broad shrubs

3-4 dm. tall. Leaves shiny

green. Flowers ca. 45-90

per head, faintly greenish

or ochroleucous, or

the corolla lobes slightly

~~white~~ antherogamous.

Brickellia atractyloides A. Gray

Brickellia (8)

11908 - 14 May, 1985

Same place as 11987.

Freely branched broad leaved
shrubs 2-6 dm tall

Flowers nearly white,
but pinkish outside
when young.

Eriogonum fasciculatum Benth.
var. *polifolium* (Benth.) T. & G.

Eriogonum (10)

11909 - 14 May 1935

MoHAVE Co., Ariz.,

With sagebrush in
sandy soil shortly
north of Vulture's

Throne, ca 106 road km

south of Fredonia

Twp. 33 N., R. 7 W., S. 20

Eleven in flower. Herbage
green. Heads yellow, with
(2) 3-4 rays.

Psilostrophe sparsiflora

(A. Gray) A. Nels.

~~Psilostrophe~~ *Psilostrophe* sp.



11910 14 May, 1985 Mohave Co.,
Arizona. Barren old clay
slopes 7 km southwest
Fredonia, Twp. 41 N., R.
3 W., ca. S. 35. Elev. 1400 m.

Corolla limb fully 1 cm
wide, bright white, with
large, bright yellow
fimbriae

Cryptantha semigloba
Barneby

519.1
314.7
10
Cryptantha semigloba

11911 - 15 May, 1985

Maricopa Co., Arizona.

With scattered piñon and
juniper on east-facing
red sand-clay slopes

ca 14 km. southeast of
Colorado City (Short Creek)

Twp. 40 N., R. 6 W., S. 12, Elev. ca. 1550 m.

Rays 15-21, often 16-18,

6-9 mm long, white on
top, tinted with pink-
-lavender beneath. Disk
yellow.

Townsendia incana Nutt.

Townsendia

(10)

11912 - 15 May, 1985
Same place as 11911.

± flowers yellow,
16-24 per head.

Hymenopappus filifolius Hook.
var. *tomentosus* (Rydb.) Turner

Hymenopappus (3) 1624

11913 - May '83

Same place as 11911.

Herbage glaucous.

Flowers crimson -

- purple, with some
variation, retaining the
original color in drying.

Penstemon utahensis Eastw.

Penstemon

(3)

11914. 15 May, 1985.

Same place as 11911.

Flowers blue, the
banner with a white
spot.

Lupinus pusillus Pursh

Lupinus (6)

11915 - 16 May, 1985

Washington Co., Utah.

On rocky, calcareous
substrate in pinyon-juniper
(mainly pinyon) woodland
in the Escalante Mts.

ca. 23 km. south west
of Ft. Hager. Twp. 42S., R.
18W., S. 22-23. Elev. 1500 m.

Plants short-lived, perhaps
mostly winter annual; no
flowers seen. Stems
solitary, or occasionally
2-3. Heads yellow.
Raylets 12, mostly 8.

Senecio multilobatus T. & G.

Senecio (10)

74.9

11916 - 16 May, 1985
Washington Co., Utah
Rocky, calcareous ridge
in pinon-juniper woodland
in the Beaudouin Mts.
ca. 23 km. airline west
of St. George. Twp. 42 S.,
R. 18 W., S 22-23. Elev.,
1500 m. Plants characteristi-
cally with this year's tuft
of basal leaves arising
above and between the
several ascending flower-
ing stems.

Arabis parryana S. Wats.

Arabis (10)

11917 - 16 May, 1985
Washington Co., Utah,
Rocky, calcareous ridge
in piñon-juniper
(mainly piñon) woodland
in the Granddame Mts.,
ca. 23 km. Aerobically
west of St. George.
Elev. 1500 m.
Twp 42S, R. 18W., S. 22-23

Cryptantha *complanata* Higgins

6494.5

Cryptantha

(7)

11918 - 16 May, 1985
Washington Co., Utah
Rocky, calcareous soil in
pinyon-juniper woodland
in the Escalante Mts.,
ca. 3 km. airline west
of St. George. Twp. 42S.,
R. 18W., S. 22. Elev. 1500m.
Only 4 plants seen. Leaf
solitary, terete, withering -
Petals white, with a
reddish-brown to greenish
midstripe on the back.
Bulb coats virtually
smooth at 10X.

Allium nevadense S. Wats.
var. *cristatum* (S. Wats.) Ownbey
Allium nevadense ①

11919 - 11 May, 1985

Washington Co, Utah

~~the~~ Brunchy night,
of way along old high-
way from St. George to
Las Vegas, ^{southwest slope of the} Beaverdam
Mts., ca 24 km airline
west of St. George.

Twp, 42 S., R. 18 W., S. 34.

Elev. 1300 m. just at the
upper edge of the Joshua zone.
Prostrate, mat-forming
perennial, creeping
below ground. Appendages
white. Stipules connate,
papery-white.

Euphorbia albomarginata T. + G.

Euphorbia



11920 - 16 May, 1985
Washington Co., Utah.
Gravelly wash along
old St. George-Parkway
highway, just at the upper
edge of the Joshua zone,
southwest slope of the
Beaverdam Mts., ca. 24 km.
airline west of St. George.
Twp. 42 S., R. 18 W., S. 34.
Elev. 1300 m. Plants 4-8 dm.
tall, shrubby toward
the base. Heads yellow. Rays
mostly ca 13.

Senecio douglasii DC.
var. *mondensis* (Greene)

Section

Senecio doug mon (6)

11921 - 17 May, 1985

Clark Co., Nevada,

Gravelly, stony bajada
along the west side of
the Sheep mts., ca 70
road km.

north of Las Vegas.

Joshua - creosote zone.
Elev. ca 1400m. Flowers
yellow.

Twp. 15 S., R. 59 E., S. 17

Camissonia brevipes

(A Gray) Raven

6656.0

Camissonia brevipes

(11)

11922. 17 May, 1985.

Clark Co., Nevada. Same
place as 11921.

Leaves very glaucous.

Flowers ca. 7-20 per head,
white or nearly so at
first, turning lavender
in age.

Atrichoseris platyphylla

A. Gray

✓

7-2

Chamaecrista (11)

11923 17 May 1985.

Clark Co., Nevada.

Same place as 11921.

Stems 1-fer. Plants
short-lived, but some-
times blooming more
than once. Corolla
white with yellow
ferruginous.

Cryptantha virginensis
(M.E. Jones) Payson

Cryptantha virginensis (41)

11924 - 17 May, 1985.

Clark Co., Nevada.

Same place as 11921.

Coralia ~~with~~ blue-
-lavender, with
inconspicuous darker
guide-lines.

Langloisia setosissima
(T. & G.) Greene

Langloisia setos. (5)

11925 - 17 May, 1985
~~Clark~~ Clark Co., Nevada.

Same place as 11921.

Flowers white, ca. 35-75
per head.

Chaenactis carphoclinia
A. Gray

Chaenactis

7

11926 17 May, 1985

Clark Co., New Hampshire
as 11921. Plants prostrate
or nearly so; forming
open to fairly dense
mats. Corolla
pink-purple, with a
yellow tube.

Nema demissum A. Gray

Nema demissum

(6)

11927 17 May, 1985

Clark Co., Nevada.

Same place as 11921. Plants
meophytic. Corolla with
blue-lavender limb
and yellow tube.

Seeds cross-corrugated.

Phacelia fremontii Torr.

Phacelia fremontii (3) ✓

11921. 13 May, 1965

Nev. Co., Nev.

About limestone cliffs
in ~~the~~ Deadman Canyon,
ca 2 km. above the
mouth. West side of
the Sheep Mts., Piute -
Jurassic zone? Elev. ca 2000,
m., ca 50 km. airline north
(and a bit west) of Las Vegas.
Bark with a disagreeable odor.
Plants ca 1.5 m tall.

Twp. 15 S., R. 60 E., ca. S, 20-21
Matured fruits becoming
maroon-purple.

Rhus aromatica Aiton
var. *simplicifolia* (Greene) Cronq.

Rhus aromatica - simpl (4)

11929 - 18 May, 1985
Clark Co., Nev.

Talus about the base of
north facing limestone
cliffs in Deadman
Canyon, ca. 1 or 2 km. above
the mouth. West side
of the Sheep Mts., in
the piñon-juniper zone.
Ca 50 km. air line north
(and a little west) of Las Vegas

Twp. 15 S., R. 60 E., ca. S. 20-21

Elev. ca 2000 m. Shrubs ca 1 m

tall. Petals white; hypanth-
ium yellowish within

Carpel solitary, asymmetrical

Physocarpus alternans (M. E. Jones)
J. T. Howell

Physocarpus
rocky slopes

(11)

11735. 18 May, 1985, Clark
Co., Nev. Trapped in crevices
of north-facing limestone
cliffs. - - - - - Ravas in # 11725.

Cheilanthes feei Moore

fern

(3)

11931, 18 May, 1985

Clark Co., Nev. Crevices of
north-facing limestone
cliffs at the mouth of
Deadman Canyon, west side
of the Sheep Mts., at the
upper edge of the Joshua
Zone. Twp. 15S, R. 60E,
S. 19-20 Elev. 1800 m.

Flowers with pale
yellow tube and spreading
white lobes. Plants
somewhat mesphitic

Phacelia perityloides Cov.
var. *jaegeri* Manz

Phacelia

(2)

11932 - 18 May, 1985

Clark Co., Nevada

In the Joshua zone at the
top of the Mojave along
the west side of the Sheep
Mts., at the mouth of
Deadman Canyon, ca 50 km
airline north (and a little
west) of Las Vegas.

Twp. 15 S., R. 60 E. Elev.
ca 1800 m. Shrub ca 1 m.
tall. Flowers 5-7,
bright yellow. ^{5.18} ~~5.18~~
Terns
white, leaves green.

Tetradymia axillaris A. Nels.

var. *longispina* (M. E. Jones)

Streeter

Tetradymia ~~longispina~~

(5)

11933 - 18 May, 1985

Clark Co., Nevada.

Gravelly bajada at the
west base of the Sheep Mt.
sharply below the mouth
of Blackman Canyon, ca.
20 km. north-northwest
of Las Vegas, Nev., 15.5,
R. 60 E. ^{S. 18 N} Elev. 1700 m.

Rays 20-40, 1-2 cm long,
mostly rather light
blue-lavender, but on
~~a~~ few plants white.

Machaeranthera tortifolia (T. & G.)

Cronq. & Keck
appr. var. *imberbis* Cronq.

Machser tortif

(7)

11934 - 18 May, 1985

Clark Co., Nevada. About
vesicular limestone cliffs
and ledges at the east base
of the Desert Range ca 70
km. airline north (and
a bit west) of Las Vegas,
and ca 6 km. by road
south of Sheep Pass.

Twp. 13 S., R. 60 E., S. 18-19.

Elev. ca 1350 m. Heavy-
scented perennial from a
woody base. Flowers dull
whitish.

Nicotiana trigonophylla Dunal
var. *trigonophylla*

Nicotiana (7) + trigonophylla

11935 18 May, 1985

Clark Co., Nevada.

On east-facing
circular limestone
cliffs and ledges -

- in 1984.

Few, low, rounded
succulent shrubs 1-2.5 dm
tall. Corolla bright
pink-purple.

Penstemon petiolatus
Brandegees

✓

Penstemon
petiolatus

(11)

11936 - 19 May, 1985 ~~El~~
Lincoln Co., Nevada.

Gravel in sand dunes at
the west base of the
Sleep Mt., near the
north end of a large playa,
ca 50 km. south of Alamo.
Elev ca 1350 m.

Flowers white, pinkish
and 27 km north of
Sleep Pass.

Twp. 11 S., R 6 E., S. 6-7.

Astragalus sabulonum A. Gray
det R. C. Barneby

Astragalus (8)

22 May, 1985 Clark Co., Nev
11937.

Gravelly Larrea
desert ca 65 km south
of Alamo, and 2 km. south
of the Lincoln Co. line.
750-800 m. intricately
branched, rounded soft
shrubs mostly 3-4 dm
tall. Heads yellow,
Rays 5-7. Stems
cottony-white, leaves green.
Twp. 12S., R. 63E., S. 7

Psilostrophe cooperi (A. Gray)
Greene

Psilostrophe

sample

(8)

11938 22 May, 1985

Same place as 11937,

Intricately branched,
woody-based, taprooted
perennials mostly 2-4 dm
tall. Flowers 5-6,
pink-lavender.

Stephanomeria pauciflora
(Torrey) Nutt.

Stephanomeria



11939 - 23 May, 1985

Washington Co., Utah

dry sandstone rocks in
pinyon-juniper zone
along the southeast base
of the Pine Valley Mts.,
ca 5 km. by road north-
west of ~~Leeds~~ Leeds, Twp.
40S, R. 14W, Twp. 35-36.

Elev. ca. 3000 m.

Flowers 25-45, lemon-yellow.
Leaves bright green.

Hymenopappus filifolius Hook.

var. *megacephalus* Turner

Hymenopappus
25-45

(10)

fid

11940 23 May, 1985

Washington Co., Utah.

Same place as 11939.

Rays 28-40, bright
lavender, ca 1.5+ cm long

Erigeron utahensis A. Gray
var. *utahensis*

Erigeron utahensis (7)

11941 24 May, 1985
Cronquist + Elizabeth C
Meese - Washington
Co., Utah. Sandy soil
overlying basaltic
deposits, Coleogyne
zone, ca 15 road km
north of Ft. George.
Twp. 41 S., R16 W., S15.

Elev 1200m.

Flowers pinkish.

Eriogonum deflexum Torr

Eriogonum (7)

11942 - 24 May 1985

Cronquist and Elizabeth C.

~~Wesley~~. Washington Co., Utah

Pinyon-juniper woodland

ca 48 road km north of

St. George and 16 road km.

south of Enterprise.

Twp. 38S., R. 16W., S. 22

Elev. ca 1750 m.

Sandstone substrate.

Leaves accrescent. Flowers

pink, some with

6 corolla lobes. Plants

forming loose mats.

Phlox griseola wherry

Frills 26-0

Phlox griseola 1 223.2 (5)

11943 C. & H.

24 May, 1985. Washington
Co., Utah. On tuffaceous
substrate in piñon-juniper
zone just south of Shoal
Creek, ca 16 road km. west
of Enterprise. Twp. 37S;
R. 18W., S. 5

Elev. ca 1700 m.

Heads yellow. Rays 7-14

Senecio multilobatus T. & G.

✓

243.5

Senecio

(4)

11944 C. & A. 24 May, 1985

Washington Co., Utah

Moist sedge-meadow along
Shoal Creek, ca. 18 km. west
of Enterprise Truss. 375., R.
18 W., S, 6

Elev. ca. 1700 m.

Plants abundant. Flowers
pink-purple with yellow
filament-tube

Dodecatheon pauciflorum
(Durand) Greene

244.6

Dodecatheon

(6)

24 May 1945

C. J. N. 11945, Washington

Co. Utah. On buffaceous
substrate in open pinon-
juniper woodland, shortly
south of Shoal Creek, ca 17+
airline km. west of Enterprise.
Twp. 37 S., R 14 W, S. 1.

Elev. ca. 1800 m.

Plants densely tufted.

Leaves pungent. Flowers
white to ~~to~~ pink.

Phlox tumulosa Wherry ✓

Phlox tumulosa (2)

C+H 11946 20 May, 1985

Washington Co., Utah

Gravelly soil on gentle
sagebrush slope ca 10 km
east-northeast of Enterprise,
near the Iron Co. line.

Twp. 37 S., R. 16 W., S. 1 or 2.

Elev. ca 1700 m.

Stems several from a
taproot and somewhat
branched caudex,
~~erectly ascending~~
ascending.

Astragalus eremiticus

Sheldon

det R.C. Barneby

Astragalus (8)

11947 25 May, 1985
Washington Co., Utah

Rather heavy clay soil in a
draw in *Juniperus*
scopulorum woodland
along the North Fork
of the Virgin River, ca
25 km by road south of
Hatch, N.M. Twp 39S., R. 9
W., S. 10. Elev ca. 1850 m.

Stems numerous, ascending,
clustered ~~on~~ ~~an~~ often woody
base. Flowers blue-violet.

Penstemon linarioides A. Gray
var. *sileri* A. Gray

Penstemon linarioides

11948 - 25 May, 1985
Washington Co., Utah.

Oak woodland ca 35 km
dry road south of Navajo
Lake. Twp. 39S., R. 9W.,
ca S. 34.

Elev. - ca 2000 m.

Perennial with loosely
attached tuberous roots.

Flowers blue, the upper
petals white with blue
veins.

Delphinium nuttallianum Pritzel

Delphinium (5) 3-11

11949 - 25 May, 1985
Washington Co., Utah.
Same place as 11948.

Perennial from slender
erecting rhizomes. Flowers
white, the banner with
inconspicuous *anthocyanic*
gradations.

Lathyrus laetivirens
Greene

Lathyrus (5)

11950-26 May, 1985

Mohave Co., Ariz. ~~Roller~~

Rolling, gravelly sagebrush
land in Wolf Hole Valley,
ca 50 km. south of
St. George, Utah

Twp 36 N., R. 12 W., S. 2
Elev. ca 1600 m.

Perennial, spreading by
creeping roots. Heads yellow.
Ray 8, or sometimes up
to 13, mostly 1-1.5 (to nearly
2) cm long.

Thelesperma marginatum
A Gray

var. *marginatum*

Thelesperma 7488.1
(6)

11951 - 26 May, 1985

Same place as 11950.

Taprooted perennial.

Ray white above, tinted
with brownish-pink
beneath, from ca 13 to
sometimes as many as 22.

Townsendia incana Nutt.

Townsendia

(4)

11952-25 May, 1985

Same place as 11950

Tapered perennial.
Herbage strongly
glaucous. Flowers
purplish.

Caulanthus crassicaulis (Torr.)
[Wats.]

Caulanthus

(4)

11953 - 26 May, 1985

Mohave Co. Arizona

Gravelly, somewhat sandy
soil in open juniper
woodland ca 56 road

Hwy. south of Ft. George,
Utah. Twp 38 N., R. 12 W.,

S. 20. Elev. ca. 1600 m.

Flowers white, with
pale yellowish bracts.

Cryptantha cinerea (Greene)
Cronq.

var. *abortiva* (Greene) Cronq.

Crypt. cinerea v. *abortiva* (5)

92.7

11954 26 May, 1985 Mohave
Co., Arizona - Pinon-juniper
woodland in Huachuca Cliffs
region on the west front
of the Unkar Plateau,
ca. (22)¹⁰⁰ road km. south of
St. George, Utah and ca 14
km. distance west of Mt.
Trumbull. Twp 35 N.,
R. 9 W., S. 29. Elev. ca 1900
m. Plants mostly single-
stemmed and apparently biennial,
sometimes few-stemmed and
short-lived perennial; no separate
rosettes seen. Heads yellow.
Ray fl. 5-7 cm long, 8-14, often
13 in number.
Hymenoxys cooperi (A. Gray) Cockerell
var. *canescens* (D.C. Eat.) K. Parker

Hymenoxys (7) 530.3

11955. 26 May, 1985

Mohave Co., Ariz. Same
place as 11954. Flowers
mostly 24-49, yellow.

Hymenopappus filifolius Hook.
var. *lugens* (Greened) Jepson

Hymenopappus

(10)

11956-26 May, 1985
Mohave Co., Ariz. Same place

as 11954. Flowers
blue-purple

Penstemon thompsoniae
(A. Gray) Rydb.

Penstemon (7) ✓

11957, 27 May, 1985

Mohave Co., Arizona

With sagebrush in rocky,
volcanic soil at the edges of
pinon-juniper woodland,
ca 12 road km. west of Nixon
Springs campground at the
west base of Mt. Trumbull,
and ca 100 road km. south
of Ft. George, Utah. Twp.

35 N., R. 9 W., S. 21 E. Elev.

ca. 1950 m. Stems 1-several.

Herbage glaucous. Flowers
rather light blue, varying
to lavender or lavender-purple.

Penstemon pachyphyllus A. Gray
ex Rydb.
var. *compactus* (M. E. Jones) H. Holmgren

Penstemon (10) 11957 549.8

11958 - 27 May, 1985
Kane Co., Utah. In deep sand,
Coral Pink Sand Dunes.
Twp. 43 S., R. 4 W., S. 27
Elev. ca. 1850 m.

Plants extensively
creeping beneath the
surface. Banner white,
veins lavender-tinged,
heel dark purple.

Psoralea lanceolata Pursh
var. *purshii* (Vail) Piper

Psoralea

9

11959 - 27 May, 1985.

Same place as 11958.

Plants extensively
creeping below the
surface. Flowers
rather dull blue-
lavender, the banner
with a large, nearly
white area below the
middle.

Sophora stenophylla A. Gray

Sophora (8)

11960 - 30 May, 1985
Millard Co., Utah. Shaly
limestone slopes in the
sagebrush - juniper zone
at the pass in the ~~east~~
Confusion Range along
U.S. Highway 6, ca 19st
road km. west of Delta,
and ca. 35 road km. east of
the Nevada line. Elev.
ca. 1900m. Only one
plant seen. Flowers
^{lavender -}
in purple, not blue, turning
dark blue-violet in the pres.

Penstemon confusus M.E. Jones

Penstemon (1) 87.1

11961 - 30 May, 1985
Milledale Co., Utah. Same
place as 11960. Heads discoid,
yellow. all plants of
this small size.

Machaeranthera grindelioides
(Nutt.) Shinn.
var. *depressa* (Maguire) Cronq.
+ Keck

M. grindel. depressa (5)

11962 - 30 May, 1955.

Millard Co., Utah. Same
place as 11960.

Stems few, erect or
ascending. Flowers
small, the limb ca 4-5
~~mm~~ mm wide, white
with yellow formicae.

Cryptantha rugulosa (Paxson)
Paxson.

Growing with 11963, *C. compacta*,
and appearing scarcely distinct,
but larger, less evidently per-
ennial, blooming later, and
with larger stylar and ventral
anther outlets.

George Engel & (5)

11963 - 30 May, 1985
~~S~~ Millard Co., Utah.
Same place as 11960.

Plants dwarf, with
erect, tufted stems and
small ~~on~~ flowers,
the corolla - limb ca 4-5
~~mm~~ mm wide,
white with yellow
fornices.

Cryptantha compacta Higgins

Described Crypt. (10)

11964-30 May, 1985. Millard
Co., Utah. With scattered
junipers in sandy, gravelly
soil at the west base of the
Confusion Range, ca. 7
road km west of the
Pass along U.S. Highway 6,
ca 28 road km. east of the
Nevada state line, and
ca 112 road km. west of
Delta.

Elev. ca. 1700 m.
Flowers bright yellow.

Linum subteres (Trel.)
H. Winter

Linum subteres (10) 91.8

1196 5-30 May, 1985
White Pine Co., Nev.

Rocky, gravelly, calcareous soil with piñon and juniper at Sacramento Pass, shortly north of Wheeler Peak.

Elev. just under 2200m.
Herbage glaucous.
Flowers bright blue.

Penstemon pachyphyllus A. Gray ex
Rydb.

var. *congestus* (M. E. Jones) N. Holmgren

216.8

Penstemon Pachyph. (5)

11966 - 30 May, 1985

Same place as 11965.

Herbage somewhat

glaucous. ~~Flowers~~

~~lavender~~

~~purple, not blue.~~ blue

Stems 1-several

Flowers lavender-purple (not blue) in life, turning dark blue-violet in the press.

Penstemon confusus M.E. Jones

Penstemon cf 11960 (10)

11967-30 May, 1985

Same place as 11965.

Banner pale lavender,
wings whitish, keel
purplish.

Astragalus calycosus Torr.
det. R. C. Barneby

Astragalus

11968 31 May, 1985

Nye Co., Nevada.

On rocky, volcanic sub-
strate in piñon-juniper
woodland at Crescent
Summit, ca 60,000
km. southwest of Ely.

Twp. 11 N., R. 6 E., S. 13.

Elev. just over 2100 m.

Plants loosely tufted, but
apparently also spreading
below-ground. Petals white,
deeply bifid. Stamens 10.

Arenaria kingii (S. Wats.)

✓ M. E. Jones

Arenaria (8)

11969 - 31 May, 1981

Mege Co., Nev. Same
place as 11968. Plants
tending to grow in
rock crevices, often
forming Petriophyton-like
mats. Flowers pale
anthocyanic.

Trochilium (2)

317, 55

11970. 31 May, 1986

Hxe Co., Nev. W. 4h. Atriplex
on gravelly alkaline gentle
slope below the mouth
of Tracy Canyon, just to
the west of the Coast
Range. Twp. 6 N., R. 56 E.,
S. 24. Elev. ca. 1500 m.

Flowers dull purplish.
Leaves glaucous.

Asclepias ~~canadensis~~
Barnaby

Asclepias ~~canadensis~~ (L.) Sibth

11971 - 31 May, 1985

Oyea Co., Nevada. Stony
(limestone) south slope;

with sagebrush, along

Spring Wash, on

the west side of the Quinn

Canyon - Grant Range

junction. Twp. 5 N., R.

56 E., S. 23. Elev. 1650 m.

Plants 3-12 dm tall.

mostly single-stemmed,

apparently biennial

with 1-4 (6) rather

small heads. Flowers white.

Cirsium neomexicanum A. Gray,

sens. lat.

Cirsium

(7)

11972 - 1 June, 1985
Nye Co., Nev., Rocky,
reddish, rhyolitic south-
west slope in piñon-
juniper woodland at Cherry
Creek Forest Camp,
Quinn Canyon Mts.
Twp. 4 N., R. 56 E., S. 36
Elev. ca 2100 m. Plants
long-lived perennial,
typically with several
or many lax, ascending
or nearly prostrate stems,
or some plants single-
stemmed and more or less
erect. Corolla. limb
small, ca. 6 mm wide,
white with yellow fornice.

11972 - contd.

Stalks strongly
roughened on both sides,
the margins not in
contact, the broad
leaf somewhat parallel
with serrate, minor
margins.

Cryptantha flavoculata
(A. Nels.) Payson

Cryptantha flavoculata (10)

11973 - 1 June, 1985. Hoge
Co., Nev. ~~Same~~ Same place
as 11972. Leaves gray green.
Only one plant seen.

Lomatium parryi (S. Wats.)
J. F. Macbride

Lomatium (P)

11974 - 1 June, 1985, Pyle
Co., Ariz. Shrubby, rhyolitic
soil in piñon-woodland
about and above the
Cherry Creek Forest Camp
in the Quinlan Canyon
Mts. Twp. 4 N., R. 56 E.,
S. 36. Elev. ca. 2100m.
Stems low below, very
loosely clustered on a
taproot. Bark like
lavender, pinkish, the
limbs white, open in the
evening and at night,
closing in the morning sun.
Abronia fragrans Nutt.

Abronia (5)

11975 1 June, 1985.

Mye Co., Nevada. In
loose, sandy soil associ-
ated with rhyolite,
with scattered piñon,
juniper, and sagebrush,
along the southeast side
of the Quinn Canyon Mts.
Twp. 3N., R. 56E., S. 25-36.
Elev. 2000m.

Plants prostrate, freely
branched, forming small
to rather large mats,
extensively creeping below-
ground by lateral roots.
Leaves glaucous. Gland-
appendages white.

Euphorbia maculata T. & G.

Euphorbia ssp. (6) 56.75

11975 - 1 June, 1985, Alje
Co., Nev. Sagebrush desert
just east of the base of
the Sierra Canyon Mts. and
just north of Cherry Creek
and ca 60 road km south-
west of Hemmingside.
Rays 35-77, bright
blue-lavender.

Erigeron argentatus A. Gray

Erigeron argent

(10)

33

17

11978 - 1 June, 1985. Nye
Co. Nevada. Sandy sagebrush
desert in White River Valley,
ca 5 km west of Hot Creek Butte
and ca 16 road km west -

- south-west of Sunnyside.
Twp. 6 N., R. 60 E. S. 15-22

Elev. ca. 1600 m.

Flowers white with a
yellow eye, small for
the section, the limb
only 3-5 mm wide.

Cryptantha welshii

K. Thorne & Higgins

Cryptantha ^{welshii} (10)

11979 1 June 1985

Elko Co., Nevada. Sandy
sagebrush desert in White
River Valley ca 5 km.
west of Hot Creek Butte,
and 16 road km west-
southwest of Sunnyside.

Twp. 6 N., R. 60 E., S. 15-22
Elev. ca. 1600m.

Herbage glaucous. Flowers
pink-lavender, withering
to blue.

Penstemon immarius N. Holmgren

P. manifestus (C) 6127

11980 2 June, 1985, Nye Co, Nevada
Along the roadside in triple
- Larch flats in
the White River Valley ca
7 km. northeast of Hot
Creek Butte and road
key west of Sunnyside
junction on Highway 318,
Taup. 6 N., 18 61 E. 5.8
Elev. ca. 1600 m.

Stems numerous, clustered on
a stout taproot. Flowers
pink-lavender, the distal
half of the wings white.

Asclepias

615.7

11950 - 2 June, 1985
Nye Co., Nev. Along
a sandy, alkaline lower
ridge in the desert,
White River Valley,
between Hot Creek Butte
and Sunnyside. Twp.
6 N., R. 61 E., S. 3. Elev.,
ca. 1600m. Stems clustered
on a stout taproot. Flowers
pink-lavender, the corolla
white in the distal half.

Astragalus toarnus M.E. Jones
det. R. C. Barneby

6 N., 61 E. S 3

Astragalus (10)

11981 - 2 June, 1985.

Nez. Co., Nevada.

Same place as 11980.

Petals³⁻⁴ white with fine
dark purple spots and
are somewhat shaped,
basally ^{green or} yellow-green
glad, also tending to
be greenish-yellow toward
the tips.

Fraxea albomarginata S. Wats.

Fraxea ① albom

11952 - 2 June 1985
Hys. Co., Mex. Same
place as 11950
Flowers 26-43, yellow

Hymenopappus filifolius Hook.
var. *narus* (Kydb.) Turner

Hymenopappus (10)

11983 - 2 June, 1985
Nye Co., Nevada. Same
place as 11980. Rays 12-20
white or whitish above,
tending to be dull
in the cyane beneath.

Townsendia jonesii (Beaman)
Reveal

Townsendia (3)

11952 21

11954 - 2 June, 1985

Mojo Co., Nevada, same

place as 11950

Rays 10-18, purple.

Machaeranthera leucanthemifolia

(Greene) Greene

Machaeranthera

(5)

11985 - 2 June, 1985. Mayo Co.,
Hawaii. Low place 11980.

Plants spreading by long,
creeping roots. Scapes
more or less erect at
anthesis, prostrate
in fruit. Perianth
dull pinkish.

Abronia nana S. Wats.

Abronia 10

11986 - 2 June, 1985

~~Elko~~ Elko Co., Nevada.

Same place as 11980.

Stems widely ascending,
or prostrate with
upturned tips. Flowers
dirty ochroleucous.

Astragalus humistratus A. Gray
var. *humivagus* (Rydb.) B. S. P.

Astragalus (8)

11987. 3 June, 1985

Lincoln Co., Kansas.

Roadside weed in sandy
soil of mixed shrub
SAX. Mile Flat,
Desert. ca 33 road km.
northwest of Alamosa.

Twp. 4 S., R. 62E., S. 19

Elev. ca. 1400 m.

Perennial, spreading by
creeping roots, the
larger plants freely branched,
leafy, and sprawling.

Petals white, wilting
in the morning sun.

Oenothera californica S. Wats.

O. californica

6

11788-3 June, 1985.

Lincoln Co., Nevada.

Sandy soil in gently
sloping mixed desert shrub
community, Six Mile
Flat, ca 33 road km
northeast of Calum.

Twp 45, R. 12E, S. 18.

Elev. ca. 1800 m.

Flowers 5-6, pink.

Enclosed.

Stephanomeria exigua Nutt.

Stephanomeria

(3)

11989 - 3 June, 1985 - Lincoln
Co., Nevada. with sagebrush
and scattered junipers
on gravelly, sandy knolls
in the desert. Macrow
Valley Wash, ca 12 road
km. northwest of Caliente.
Twp. 35., R. 67 E., S. 22.

Elev. ca 1400m

Plants varying from single-
stemmed and apparently
biennial to evidently
perennial, with several
leaves. Flowers
white with a yellow eye,
small for the section, the
limb only 3-5.5 mm wide
Cryptantha Welchii K. Thorne

Cryptantha Welchii

(10)

11990-3 June 1985

Lincoln Co., Nevada

Gravelly, sandy soil in
pinon-juniper woodland,

ca 17 km. airline east of
Caliente. Twp. 4 S., R.

69 E., S. 7. Elev. ca 1800 m.

Stems loosely clustered,
widely to strongly
ascending. Leaves gray.
Flowers blue-violet,
waxing to more nearly
a dark purple.

Cedar Range

Penstemon linarioides A. Gray
var. *sileri* A. Gray

Penstemon

(8)

11991 - 3 June, 1985
Lincoln Co., Nevada,

Same place as 11990.

Stems clustered on a
Taproot,

Astragalus tetraapterus

A. Gray. Det R.L. Barneby

Astragalus (4)

11992 - 3 June, 1985
Lincoln Co., Nevada

Pinyon-juniper
woodland in the Cedar
Range, ca 19 km. airline
east of Caliente. Twp.
4S., R. 6E., S. 24.

Elev. ca 1800 m.

Herbage glaucous.

Flowers bright

pink-purple, with

some variation to darker
and lighter shades, but
turning darker blue-violet in
the press.

Penstemon confertus M. E. Jones

Penstemon (10)

11933 - 4 June, 1985. Lincoln
Co., Nevada. Sandy clay

soil about white clay
knolls in sagebrush
Desert ca. 2 km. east
of Pahrump. Twp. 2 S., R. 68
E., S. 10. Elev. ca. 1500 m.

Plants extensively
spreading by creeping
roots. Flowers white,
wilting in the morning
sun.

Oenothera pallida Lindl.
var. *pallida*



Oenothera pallida (L.)

1199 4. 4 June, 1985

Lincoln Co., Nevada,

Rarely seen in sagebrush.
Spent 22 km. east of
Poncha. Twp. 2S., R. 68E.,
S. 10. Elev. ca. 1500 m.

Plants apparently taprooted
and annual to biennial or
short-lived perennial.

Stem short, stout,
and erect, or underdeveloped.
The stem leaves larger and
widely spreading or
nearly prostrate. Flowers
white, withering to pink in
the morning sun.

Oenothera deltoides Torr. & Freimont
var. *Piperi* Munz

Oe. deltoides var. *Piperi* (4)

11995 - 4 June, 1985 Lincoln
Co, Nevada. Sandy, gravelly
soil in sagebrush
about 2 km. east of
Pioche, Twp. 2 S, R. 6 E.,
S. 10. Elev. ca. 1500 m.

Flowers white, withering
to pink in the morning
sun.

Camissonia boothii (Dougl.) Raven
subsp. *alyssoides* (Hook. + Arn.)
Raven

Camissonia boothii (5)

11996 4 June, 1985

Roadside pull-in ^{Iron Co., Utah}

sagebrush desert along
Utah Highway 56, ca 33
road km. east of the
Nevada state line.

Twp. 35S., R. 17W., S. 21.

Elev. ca. 1650 m

Plants tap rooted, apparently
short-lived perennial.

Central stem very short,
stubby, and erect, or
scarcely developed. Lateral
stems prostrate or nearly
so, spreading and forming
a rosette. Flowers white,
withering pink.

21.5



Oenothera deltoidea Torr. + Fremont
var. *piperi* Munz

Oenothera deltoidea (5)

11997 9 June, 1985

Summit Co., Utah.

With sagebrush and juniper
on west slope over
calcareous sandstone, ca
3 km. north of Coalville.

~~Harrison~~ Elev. ca 1700 m.

Two

Unusual for the species in
the almost uniformly
rather light blue to
nearly sky-blue corolla
tubes, only inconspicuously
marked with whitish and
darker blue toward the center.

Hackelia patens (Nutt.) I. M. Johnston
var. *harrisonii* J. Gentry

Hackelia patens (5)

11998 - 9 June, 1985.

Summit Co., Utah. Rather
sandy soil associated
with calcareous sandstone
in sagebrush juniper zone
ca. 3' high, north of
Coalville.

Temp.

Shade ca. 1900 m.

Flowers white, wilting
in the morning sun.

Plants extremely

~~low~~ creeping below
ground.

Oenothera pallida Lindl.
var. *latifolia* Rydb.

50115 (5)

11999 A.C., David Snyder,
and Lorraine Abbiate-
-Caruso 3 May, 1986
Sussex Co., New Jersey,

Wet seepage areas and
streambanks in hemlock-
hardwood-white pine woods.
Elev. ca. 300 m.

Corms very deep-seated. ✓

Petals yellow, with variably
orange to orange-red guide-
lines toward the base. ✓

Claytonia virginica L. var. *virginica*.
The phase called *C. hammondiae*.

Claytonia (2) Kalmbach

11 June L. Denver	10.051
Hotel - ...	32.22
12 June ...	10.000
... (H. ...)	.30
Individual ...	3.25
Ohio	.35
Hotel ...	32.55
...	112.61

13 June Tolls	
Ohio P. Co.	1.25
Delaware25
GW Bridge	2.00
H. Hudson Pharmacy	.98
H. ... Pharmacy	.25
anometer, W. P. Co.	118.35

Cherry St. jet	305.0
" summer	95.5
Cherry St. jet	
overnight	8224.3
jet	400.0
jet	400.5
jet	418.9
Motel - Jet	23.76

2 June - jet	8525.5
jet	49.2
summer jet	600.1
summer	20.0
Motel - Alois	

3 June - jet	871.0
jet	725.0
summer	756.7
jet	67.8
jet	

get

671

Motel Colville

22.00

4 June - L. Colville

8.15.5

Hotel Colville

11.00

Breakfast

39 28.85

Hotel Colville

8 9.4.0

Hotel Colville

15.00

Hotel Colville

9 21. -

Hotel Colville

53.50

52.2.2 miles

6 June Hotel Logans

19.40

Hotel Logans

25.00

Hotel Colville

3.80

of 1.500 m

7.75.

Hotel Colville

25.40

Hotel Colville

25.75

Hotel Colville

24.43

May, could
Motel St George 25.99

2 May - left G. 745.5

jet 86.5

collect 88.1

sum jet. 498.9

Paverty jet 516.75

Mt + more 528.9

Nixon Spgs. 7539.7

27 May

to ... 540.4

turn ...

St George 550.4

jet. 551.4

jet near Nixon Spgs 556.9

jet to Colo City 62.5

St. George 5576.6

get St George. 23.99

28 May - Lv St G. 7728.6

arr Provo -
Motel Springville 25.00

29 May - Provo - Sp.
Motel Springville 25.00

30 May

Lv Provo - Springville 8023.2

Delta 8121.7

Hemato 8209.7

Ely 8273.3

Motel 23.54

31 May - Lv Ely 8279.3

get = 318 302.4

Crescent 330.0

Crescent again 344.8

get back to St 63.00

3 May, L. St. G.	7055.2
Vero	7073.0
JCT	795
Jct. Grass Valley	86.4
SG	7134.5
Jct.	7167.1

24 May L. St. G.	7193.5
Forest line	245.5

to Cedar City	7337.3
---------------	--------

meat in Cedar	19.55
---------------	-------

Dinner with Nelse	19.00
-------------------	-------

25 May - L. Cedar	7337.3
-------------------	--------

Enter Kans Co	7360.0
---------------	--------

Jct. Hays, Kans	67.9
-----------------	------

Summit, 17, L	5
---------------	---

to L. Cedar	69.75
-------------	-------

pt 9 mt.	392.3
----------	-------

highway pt	701.0
------------	-------

Dennis Breedlove

Hert. Sept 7 Bot.

Cal. Acad

Gold. M. v.

S. F.

94118

213-825-3619

Shirley Warner

2000

Y-Logan

5.569

Motel ~~Brighton~~

Price

15.00

9 May. ~~Brighton City~~

Price

5720

Motel

15.00

White Gas. Price

11.94

Bought 100.50

for gas in last tank

10 May - Price

5757

~~2~~ Lt George motel

23.99

11 May - Lt George 6030.
(center) 6031.2

19, 17, 18, 16, 15, 20, 20

- 6038.4

Wolf Hole Mt. jet. 6054.6

May 12 - Mosquito 38.52,
for 2 mos

~~St. George~~

Jct 6190.4

14 May 1964 6231.1

6232.3

Jct 5416

Kanab

Motel 18.79

15 May. Kanab 6328.5 miles

Service 51.79

6336 Fre. House

6336.16 Mahanalo

72.0 Sh. C. to

6390.55 - House Cigueme

6401.5 - 85 - T. entires

Union Knolls ✓
Pickup Canyon ✓
Kanab Point ✓
Powell plateau
De Motte Park ✓

Pakoon spgs ✓	✓ Little Canyon Vell.
Olak knolls ✓	✓ Antelope knoll
Last Chance Cany. ✓	✓ The Grand Stair
Poverty spgs. ✓	Dutchman Draw ✓
Poverty knoll ✓	Sullivan Draw, T.
Jones Hill o	Mustang knoll ✓
St. George Canyon ✓	Wolf Hole Mt. ✓
Sullivan Draw, S.	W. H. M. East
Little tanks ✓	Cassin wall canyon ✓
Russell spgs. ✓	Cap poverty ✓
Moran knoll ✓	Purgatory C. ✓
Lat knoll ✓	12 Land Mt. o
	Yellow Horse Pk. ✓
	Pack Canyon

3 May. W.P. 3284.1

Tolls - Delaware Water Gap .25

Ohio Pike 3.30

" " .50

Motel 19.35

4 May - Wasseon, Ohio 3901.3

Tolls Ohio Pike .20

Indiana Pike 4.25

Illinois .30

Motel - Lincoln, Neb. 19.30

5 May, Lincoln, Neb. 4627.9

Motel - Rock Spgs. W. Va. 22.88

6 May - Rock Spgs. W. Va. 5338.

Motel - Logan 23.87

7 May - Logan - 5542

Motel - Logan 23.87

Mt. Turnbull NE
NW, SE

Mt. Logan

Tuckup Canyon

Heaton Knolls

Vulcan's Thrane

Littlefield ✓

Carr Spgs. ✓

Lost spg. Mt. ✓

Colorado City ✓

Fredonia ✓

Shinarump ✓

House Rock Spg ✓

Jacob's Lake ✓

Big Spgs. ✓

Wash Canyon ✓

12,000. 3 May, 1986. A.C.

David Snyder & Lorraine Abbiate-
Caruso. Sussex Co., N.J.

Sunrise Mt., on Kittatinny Mt.
elev. ca 500 m. Limestone
substrate, in rather low
oak woods. Plants 6-15 dm,
colonial, not much branched.
Petals white.

Amelanchier (2)

May 1986

Welsh 801-378-2289

Meese 801-277 0701

4478 Zarahemla Drive

SLC 84124

Barthman 801-750 1000

* 1584

John 714-993-3587

516 Moonbeam

Placentia, Calif.

714-773-2246 office

~~5175~~
Dicentra canadensis 1014

1 leaf - blue-green
glaucous

4 *crucifera* 2 lvs.

yellow-green, not glaucous

3 May 86

17200 - 17400 miles

~~Livia~~

Nivia

2

